September 30, 2013

Ms. Marlene H. Dortch
Secretary
Federal Communication Commission
445 12th Street SW
Washington, DC 20554

Re: Notice of *Ex Parte* Communication, WC Docket No. 13-184

Dear Ms. Dortch:

On September 17, 2013, Melinda Stanley of the Kansas State Department of Education, Martin Stessman and Blair Anderson of Shawnee Heights Unified School District 450, Jim Rousseau of Topeka Public Schools Unified School District 501, and Stacy Smith of Newton Public Schools Unified School District 373 (collectively, IT Officers) spoke via telephone with James Bachtell, Soumitra Das, and Alec MacDonell of the Wireline Competition Bureau, and Michael Steffen, FCC Director of Digital Learning. The purpose of the call was to discuss several aspects of the Kansas school information technology capabilities, spending, strategy, and infrastructure and also to seek the districts' input on the Commission's July 23, 2013 Notice of Proposed Rulemaking in the above-referenced docket. The IT Officers provided the following information during the call:

- *Internet access and WANs.* Shawnee Heights Unified School District 450 (Shawnee Heights) purchases a 250 Mbps Internet connection from AT&T for its middle and high school ($44,000 a year or $3,666 a month) and leases a 100 Mbps WAN connection for its four elementary schools ($40,000 a year or $3,333 a month) from AT&T. Shawnee Heights representatives said they are "chasing demand" but have been increasing its Internet speeds each year. There are only a limited number of service providers in the area, Cox being the other major service provider.

  Topeka Public Schools Unified School District 501 (Topeka) owns its own fiber network that is distributed across the district from a single Internet access point. Mr. Rousseau described it as 100 Mbps "burstable" to 1 Gbps and costing $1,650 a month. It is self-maintained and most of the costs is switching at each school. A couple staff members help maintain the network, but these employees have other responsibilities as well, Mr. Rousseau said. The network was constructed in 1999 in conjunction with a bond issue and no E-rate funds were used.

  Newton Public Schools Unified School District 373 (Newton) purchases its Internet from Windstream Communications. It receives 100 Mbps for $2,300 a month. It also has a Wide Area Network (WAN) that is 1 Gbps from the district's technology center with leased dark fiber. It costs $2,500 a month from IdeaTek. Ms. Smith said the school district switched this past summer from Cox to IdeaTek to save money. It has a five-year agreement with IdeaTek that is renewable. The school district owns the equipment lights its own fiber. It has one network manager, but basically the fiber is self-sufficient and just "exists," without much maintenance, Ms. Smith said. There was no upfront or special construction costs for the fiber build.

- *BYOD and One-to-One Initiatives.* Shawnee Heights started a one-to-one WiFi-enabled iPad initiative last year with each freshman getting a tablet that he or she can use in the classroom and take home. This year, the incoming freshman will again get iPads and the sophomores will retain theirs from the previous year. Shawnee Heights representatives said they are sensitive to the fact that some students will have not have access to WiFi at home. Teachers, therefore, often assign homework that does not require the Internet. The Shawnee Heights one-to-one program has been a success, thus far, thanks to extensive training of it faculty and staff.

  Topeka permits bring your own device (BYOD) in its schools. It has a credentialing mechanism, with a user name/password requirement, with students and teachers receiving different filtered access to the Internet. There is also guest access, where guests get the same filtered access as students.

  Newton also has a BYOD initiative. Ms. Smith said there are 1,000 "licenses" open to high school students. No smart phones are permitted. All devices must be pre-authorized by using the specific MAC address of that device.

- *WiFi.* Shawnee Heights has full WiFi coverage in all schools, with an average one wireless access point (WAP) per classroom in the high school, and 30-35 WAPs per schools for the other grades. There are 237 total WAPs. In the high schools, there are 900 active users on WiFi, 758 being students. This infrastructure is sufficient for the district's current WiFi needs. All WAPs are 802.11n and the district replaces them once every three years or so. Each device costs around $800 a piece but the school district gets $100-$150 trade-in from Cisco. Shawnee Heights has two controllers that can handle up to 300 WAPs each. Even though only one is covered by E-rate, the school district said the redundancy was necessary. The IT Officers on the all noted that the school districts were more or less forced to upgrade the WAPs since the equipment becomes obsolete and the manufacturer stops making parts

  Topeka also has full WiFi coverage. It has 800 WAPs, using a mix of Cisco and Ruckus WAPs (with Ruckus in the elementary schools and Cisco everywhere else). These serve 14,000 students and 2,500 staff members in 36 buildings. There are more WAPs in the high school, approaching about one WAP per classroom, but this mainly because of the physical characteristics of the building. Its routers use 802.11n primarily and operate on 2.4 and 5 Ghz frequencies. It also has two controllers costing $50,000 each and located centrally. WAPs are typically $600 a piece and changed out every few years, usually as result of manufacturer obsolescence. The school district employees two staff people to run cable and hang access points. Adequacy of the network is a concern during heavy online testing periods, Mr. Rousseau said.

  Newton has WiFi in all its buildings, with 160 WAPs. Ms. Smith estimates there are 3,000 wireless devices and there are about 19 devices per access point. On average, there is one WAP per 3 to 4 classrooms. Ms. Smith said the school district needs to do more density planning to properly determine Internet sufficiency. Newton pays $600 per access point and $15,000 per controller (which handle 100 access points each).

- *Cloud services.* The IT Officers said that they do use cloud-based services for some storage and collaboration. Some of the services the school districts use include Google applications, Huddle, Discover Education, My Big Campus, e2020, and use the cloud for state testing. Shawnee Heights tries to keep most of its information and software on campus, but does use Google Docs and e2020.

- *Standardized testing.* All three Kansas school districts participate in online standardized testing. The school districts had different ways of planning for these tests, but all agree the testing will substantially increase their bandwidth needs.

- *Misc*
    - Mr. Rousseau pointed out that five years ago the district was supporting 5,000 Internet-capable devices. Today, that number is 14,000.
    - A consistent theme is that equipment makers of WAPs and routers often dictate when the equipment is replaced by discontinuing the model and/or service on that model. Mr. Rousseau indicated vendor "end of life" support on equipment is a catalyst for having to replace these critical infrastructure components approximately every 3 years.

Respectfully submitted,
/s/
James Bachtell
Attorney-Adviser, Telecommunications Access Policy Division, Wireline Competition Bureau